Ser. No. 09/727,567 filed November 30, 2000, Karen Ann Bradley, et al.

Examiner: Kenny S. Lin, GAU 2154

Docket No. 50325-0504

REMARKS

Prior to entry of this amendment, Claims 1-2, 4-8, 10-14 and 16-20 were pending in this application. By this amendment, Claims 1-2, 6-8, 10, 12-14 and 18-20 have been amended. Claims 21-22 have been added. The amendments to the claims do not add any new matter to this application. All issues raised in the Office Action mailed November 30, 2004, are addressed hereinafter.

Each pending claim is in condition for allowance over the cited art because one or more elements of each pending claim is not disclosed, taught, or suggested by the cited art.

Claims 1, 4, 6-7, 10, 12-13, 16 and 18-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Shurmer*, U.S. Patent No. 5,974,237, in view of *St. Laurent*, "describing Your Data: DTDs and XML Schemas, December 1, 1999, O'Reilly XML.com. Claims 2, 8, 14 and 20 stand rejected under § 103(a) as being unpatentable over *Shurmer* and *St. Laurent*, further in view of "*Official Notice*." Claims 5, 11 and 17 stand rejected under § 103(a) as being unpatentable over *Shurmer* and *St. Laurent*, further in view of *Schuster*, U.S. Pat. No. 6,363,053.

The rejections are herein respectfully traversed.

REJECTION OF INDEPENDENT CLAIMS 1, 7, 13 AND 19 UNDER 35 U.S.C. 103(a)

Embodiments of the present invention provide methods of verifying that a service provider is providing the level of service guaranteed in a service level contract made between the service provider and a customer. In particular, embodiments of the present invention define metric tests for measuring a level of service of a particular type of network operation being provided to a customer, each metric test including a set of one or more threshold values

for that particular type of network operation, and specific time periods for performing the tests, in a schema. The set of threshold values for each metric test corresponds to a range of acceptable performance specified in a Service Level Agreement for the type of network operation that the metric test measures. The metric tests are distributed to agents that configure network devices to perform the metric tests during the specified time periods and receive result information from the devices performing the metric tests.

Representative independent method claim 1, as amended, recites the step of:

receiving a schema that provides a configuration for monitoring a service level contract between the service provider and a particular customer, wherein the schema comprises:

data defining one or more metric tests for monitoring the level of network service being provided to the particular customer by the service provider, each said metric test measuring a level of service of a particular type of network operation, and including a set of one or more threshold values that correspond to a range of acceptable performance for the particular type of network operation, and

information defining a specific time range for when the one or more metric tests are to be performed;

The cited prior art references do not teach or suggest every element of this step.

I. Shurmer Does Not Teach or Suggest <u>Metric</u> Tests for <u>Measuring</u> a Level of Service

The Office Action asserts that Col. 1, lns 47-60, Col. 6, lns 57-67; Col. 7, lns 1-9, Col. 8, lns 3-14, Col. 14, lns 39-48, Col. 16, lns 39-43 and Col. 20, lns 52-56 of *Shurmer* teach "data defining one or more tests for monitoring the level of network service being provided to a particular customer." (Office Action, Page 3, paragraph 6b). The claims have been amended to clarify that the tests are *metric* tests. The word "metric" is defined in Webster's dictionary as meaning "of or relating to measurement." Accordingly, the claimed invention monitors a level of service by *measuring* a level of service of one or more network

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operations. Shurmer does not disclose metric tests of any kind, much less metric tests for measuring a level of service of network operations. Shurmer only discloses that a user inputs operational parameters and that signal data corresponding to the selected network elements is collected. The operational parameters in Shurmer are merely "performance parameters describing the performance of a network element" or "a service parameter, describing a service supported by one or a plurality of network elements." (Col. 6, lns 57-62). The cited sections of Shurmer only disclose "a plurality of monitoring sessions, each monitoring a respective operational parameter or set of operational parameters." Interactively monitoring an operational parameter does not teach or suggest measuring a level of service with a metric test, as featured in the claimed invention.

II. Shurmer Does Not Teach or Suggest Measuring a Level of Service of a Particular Type of Network Operation

Even if the monitoring taught by *Shurmer* suggested metric tests for measuring a level of service, which it does not, *Shurmer* only discloses monitoring individual components, not measuring a level of service for a network operation, as featured in the claimed invention. Col. 14, lines 45-50, cited by the Office Action in Paragraph 6b, teaches: "The performance of a network element can be measured with respect to a specific service which will only measure the performance data on the individual component parts of the node element or switch, that the service connection traverses." Significantly, *Shurmer* teaches at Col. 14, lns 19-24: "[s]ince monitoring is by collection of component signals from individual components of node elements, it is not possible to directly measure data traffic in a customer service flowing along the network. Data concerning a service is obtained by inspecting

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component signals generated from individual components which support a particular

service." Therefore, Shurmer only teaches that the performance of individual network

components can be measured, while the claimed invention features measuring a level of

service of a network operation.

III. Shurmer Does Not Teach or Suggest a Metric Test Including a Set of One Or

More Threshold Values

The claimed invention features a metric test used to measure a level of service for a

particular network operation that includes a set of one or more threshold values that

correspond to a range of acceptable performance for that type of network operation being

measured with the metric test. As described in the present specification at Page 11, lines 16-

20, "the standardized templates may include a group of metric test parameters that has been

approved for verifying the level service that is being provided to a customer. The metric test

parameters define a range of values that may be used for verifying the level service that is

being provided to a customer." Page 20, lines 3-4, further discloses: "in general, each type of

metric has its own unique set of possible threshold values."

Shurmer does not teach any type of metric test, much less a metric test that includes a

set of one or more threshold values corresponding to a range of acceptable performance for

the metric test.

IV. Shurmer Does Not Teach or Suggest Distributing Metric Tests to Agent, and

Agents Configuring Devices to <u>Automatically</u> Perform Metric Tests

Representative claim 1 additionally recites the step of:

distributing the one or more metric tests to one or more agents, wherein the one or more agents configure devices associated with the network to automatically

perform the one or more metric tests during the specific time range, and

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receive result information from the devices performing the one or more metric tests.

The cited prior art references do not teach or suggest every element of this step.

Shurmer describes a user actively monitoring the performance of individual network components, not network devices configured to <u>automatically</u> perform the metric tests.

Shumer teaches at Col. 20, lines 48-53: "Each user can operate a client station to perform one or more data monitoring sessions by opening a monitoring session in step 130. In each case, a session manager display is opened in step 131... Operational parameters to be monitored in the monitoring session are input in step 140." The user "can specify one or more of a plurality of connections ... and be presented with a resource display 111 identifying the individual node elements which support the services between those communications network customers." This does not teach or suggest an agent configuring devices to <u>automatically</u> perform tests – metric tests are never automatically performed in Shurmer. In Shurmer, the operational parameters are interactively entered by a user, and devices are monitored interactively by the user, not configured to automatically perform metric tests.

Furthermore, the claimed invention features that the metric tests are distributed to agents, wherein the agents configure the devices to automatically perform the metric tests.

Shurmer does not teach or suggest this feature. The Office Action asserts at Page 11, paragraph 21 that the "performance data session server application" of Shurmer teaches this feature. However, the performance data session server application does not distribute metric tests to an agent, nor does it receive distributed tests. Furthermore, the performance data session server application does not configure network devices to automatically perform metric tests.

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For these reasons, the independent claims 1, 7, 13 and 10 are patentable over the cited

references. Accordingly, reconsideration and withdrawal of the rejections of these claims is

respectfully submitted.

Dependent claims 2, 4-6, 8, 10-12, 14, 16-17 and 19-22 all include the limitations of

the independent claims by virtue of their dependence. Therefore the dependent claims are

patentable over the cited art for at least the reasons set forth herein. Furthermore, the

dependent claims recite additional limitations that independently render them patentable over

the cited art. In view of the patentability of the independent claims, only some of the

dependent claims are further argued in order to expedite prosecution.

DEPENDENT CLAIMS 2, 8, 14 AND 20

Representative claim 2 recites:

for each metric test defined in the schema, determining whether result information for that metric test is within the set of one or more threshold values included in

that metric test; and

creating and storing reporting information that indicates whether the customer is actually receiving, during the specific time range, the level of network service

offered by the service provider in the service level contract, said reporting

information based on said determinations.

The cited prior art references do not teach or suggest all of these limitations.

As noted above, *Shurmer* does not teach or suggest metric tests that include a set of

threshold values. Therefore, Shurmer cannot possible teach or suggest determining whether

result information for a metric test is within the set of threshold values included in the metric

test. Shurmer only discloses that "each user is presented with an individual graphical display

of selected performance parameters for each monitoring session" (Col. 20, lines 62-64).

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Applicants respectfully request the withdrawal of the rejection of claims 2, 8, 14, and

20 on at least this basis.

DEPENDENT CLAIM 21

New claim 21 features that the range of threshold values included with a metric test is

configured according to a level of performance specified in a Service Level Agreement.

There is nothing in *Shurmer* that ties the performance parameters received during a

monitoring session with the level of service specified in a service level agreement. Even if

Shurmer taught metric tests that include a set of threshold values, which it does not, there is

no teaching in *Shurmer* of associating metric test threshold values with a service level

agreement. Shurmer teaches passive monitoring and reporting; the claims involve active

testing for compliance with a service level agreement through thresholds included with

metric tests.

Claim 21 is allowable for at least these reasons.

DEPENDENT CLAIM 22

New claim 22 features that the metric test is selected from the group consisting of

ICMP metric test, UDP metric test, DNS metric test, HTTP metric test and VoIP metric test.

As is disclosed at Page 19, lines 20-24, "each SLA encapsulates the type of metric

which should be monitored (e.g. DNS response time)... The metric type defines the type of

test that is to be performed." Examples of tests include ICMP metrics, UDP metrics, DNS

metrics, HTTP metrics and VoIP metrics. (Page 20, lines 1-2.)

Shurmer does not teach any of these types of metric tests.

Claim 22 is allowable for at least these reasons.

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CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested. If there are any additional charges, please charge them to Deposit Account No. 50-1302 (Docket No. 50325-0504).

The Examiner is invited to contact the undersigned by telephone if the Examiner believes that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,

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